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Columbia University for an addition to the Sloane Maternity Hospital.

THE New York *Evening Post* states that the bequest of Dr. Levi Ives Shoemaker, of Wilkes-Barre, Pa., of \$500,000 to the Medical School of Yale University will, at the expiration of a life interest, give the school an amount more than double its present funds, which, by the last report of the university treasurer, were \$222,687.

DR. G. B. LONSTAFF, of New College, Oxford, has given £2,400 to the university for forming an additional endowment for the maintenance and support of the Hope department of zoology.

THE laboratory of physics of the University of Illinois will be formally opened on November 26. President Pritchett, of the Carnegie Foundation, will make the dedicatory address, preceded by short addresses by the governor of Illinois, the president of the board of trustees, the president of the university and Dr. A. P. Carman, professor of physics. At a subsequent session addresses will be made by Professor David Kinley, dean of the graduate school and Professor Arthur G. Webster, of Clark University. On November 27, the American Physical Society will hold its regular meeting at the university.

THE formal inauguration of Dr. Edmund C. Sanford as president of Clark College will be held on founder's day, February 1, 1910.

PROFESSOR CLARENCE E. REID, who for the last four years has been assistant professor of electrical engineering at the Case School of Applied Science, has been appointed head of the department of physics and electrical engineering at the Mississippi Agricultural and Mechanical College.

DR. G. C. FRACKER has resigned the chair of philosophy and psychology at Coe College to accept the chair of psychology and education at the State Normal School of Marquette, Mich., where he succeeds Professor L. S. Anderson, who has gone to the University of Illinois. Dr. F. S. Newell has been appointed to the position in Coe College.

At the University of Birmingham Mr. J. S. C. Douglas has been appointed lecturer in pathology and bacteriology, and Mr. Leonard Doncaster, special lecturer in heredity and variation.

MR. GORDON MERRIMAN, of Trinity Hall, has been appointed to the studentship in medical entomology at Cambridge University, lately held by Mr. F. P. Jepson, of Pembroke College.

DISCUSSION AND CORRESPONDENCE

THE COMBINED COURSE LEADING TO THE DEGREES OF A.B. OR B.S., AND OF M.D.

THE combined course leading to the degrees of A.B. or B.S. and the degree of M.D. which is discussed by Professor Christian in his address at Leland Stanford University¹ is a topic of such importance that Professor Christian's comments ought not to go unanswered. His declaration that "These schools have succeeded in rendering the A.B. degree of less value and significance than formerly and have sacrificed one or two years of college work while seeking to conceal this fact by the award of the two degrees A.B. and M.D.," will hardly be accepted as a just and truthful statement of the facts, by the twenty-five or more institutions now offering the combined course. Those persons who maintain that the bachelor's degree should be awarded only to those students who have completed the rigid, classical four years' course of study formerly prescribed, may logically object to the substitution of science work for one half or more of this curriculum, such as has been permitted in Harvard University for many years. But this rigid, classical ideal was shattered more than thirty years ago by the institution of the elective system in Harvard University—a system which in one modification or another has come to be all but universal in our American universities.

Of the right of the fundamental medical sciences, anatomy, histology, embryology, physiology, physiological chemistry, bacteriology, pharmacology and fundamental pathology—to a place in the university curriculum

¹ SCIENCE, October 22, 1909.

there can scarcely be room for discussion at this time. Says Professor Christian in another part of his address:

There is no essential difference between the methods followed by the pathologist in his investigation and those followed by the zoologist in certain of his fields of work; the medical chemist uses the procedures of the organic chemist; the bacteriologist is an investigator in a special field of botany. That in the medical departments man and his diseases is the ultimate subject of study is no reason for regarding these studies as less cultural than other university subjects.

President Eliot has put the case of the medical subjects even more forcibly. He has said:

There is no line between cultural and professional subjects. There is absolutely no line. I read the other day an admirable definition by President Hadley of what we wanted the colleges to effect, not the professional school—presumably Yale College. He said we wanted to teach the college youth civic duty and religious earnestness, and health of mind and religious aspiration; he wanted to teach him public service as the root of American life and therefore of American education. Now, that is twice as gospel, gentlemen. It is the educational gospel. But, in my judgment, it is not the gospel of the American college only, it is the gospel of American education from the primary school through the professional school, and I know of no subject better adapted to develop the sense of civic duty, of public service, and of moral and religious earnestness than the subjects taught in the medical school.

If these things be true, if we accept the elective system, and grant to those sciences which constitute the first two years of the curriculum of all medical schools the right to a place among the sciences taught in the university, can there be any logical escape from the conclusion that if a young man elects these sciences during the junior and senior years of his college course, he must be granted a bachelor's degree on the successful completion of his four years of college work?

No—the combined course has not degraded, nor lessened, the significance of the bachelor's degree. Rather I am strongly inclined to believe, it has elevated and enlarged its significance. The student whose last two years

of college work have been taken in subjects directly related to his chosen vocation, pursued with an enthusiasm and an earnestness born of a definite purpose is pretty certain to have attained to a higher degree of cultivation of his mental faculties—which is the chief end of any educational system—than is the student whose studies are not directed toward a definite purpose.

Has the combined course tended to degrade or lessen the significance of the degree of M.D.? If the requirement for admission to the medical school had been a bachelor's degree, then that charge might be justly brought against the combined course, but it is to be remembered that when this plan was first projected but a single one of the 160 or more medical schools in America exacted anything more than a high-school diploma. The Harvard Medical School and all the remainder of the list, excepting the Johns Hopkins Medical School, were on this basis. Of course two years of college preparation is not equal in value to four years, and it is in the highest degree desirable that a student should complete four years of college work, exclusive of the medical sciences, if his age and other circumstances permit him to do so. A large and an increasing number of students are meeting this higher requirement in all of the better medical schools, and every inducement should be offered to young men to complete a full college course before entering upon the study of medicine. But for a long time to come we shall have in this country a considerable number of men to whom the exaction of four years' requirement would mean deferment of their entrance upon medical study and practise beyond that age at which it is wise and best for them to begin their life work. As President Eliot has said: "If a young man takes his A.B. at twenty-two he can hardly hope to begin the practise of his profession before the age of twenty-six. That is quite late enough." Professor Christian has himself so well stated the objections to late graduation in medicine that it is perhaps unnecessary to discuss the subject further, but a specific case may serve to emphasize this point. My advice has been

sought within a few days by a young man of twenty-seven who is just entering upon his second year of college work. He is willing and anxious to pursue that course which is best for him as a preparation for medical practise. He came to inquire specifically whether he ought to complete his college course and secure his bachelor's degree before entering the medical school, or should he take up the medical subjects in the combined course next year. The first alternative would defer his entrance into actual practise eight years (including one year of hospital training), at which time he will be thirty-five years of age. He is securing in the two years of preparatory college work two majors of college physics (240 hours), four majors of college chemistry (he has had one year each of physics and chemistry in high school), one major of biology, and eleven majors of work in English, mathematics, psychology, German and French, and other non-scientific subjects. Is it wise to advise this young man to defer his graduation in medicine until he is thirty-five? If he were nineteen, twenty or twenty-one, the problem would be quite a different one. At such an age he could well afford to go the whole road. In such a case the work of the last two years in college should in most cases be along lines not related to the medical curriculum but rather in the humanities, to the end that the student may become a broadly cultured, scholarly man and citizen, as well as a thoroughly trained physician. Some additional work in chemistry—quantitative analysis—and in comparative anatomy, he should have, and especially should he carry on some piece of independent investigation in order to develop the power of accurate observation and of clear logical thinking which is the most essential qualification for the practise of medicine.

Professor Christian will be glad to learn that the hope in which he indulges "that the day will soon come when the higher degrees will be awarded for medical studies just as for other university subjects," has long since been realized. The day arrived some years ago when courses in anatomy, physiology, pharmacology, bacteriology, pathology and experi-

mental medicine were made in the most complete sense university courses, in the University of Chicago. For over five years it has been possible for the graduate students in this university to secure the doctorate degree for research in any of these departments, and several Ph.D. degrees have been so conferred. I believe the same conditions obtain at the universities of Wisconsin, Nebraska, Kansas, California and other western institutions, in which institutions such departments have been organized in the university proper, where they rightly belong.

JOHN M. DODSON

SCHOLASTIC COMPETITION

THE earnestness and enthusiasm which competition has given to athletics invites serious consideration, as to how a similar competitive spirit may be stimulated in collegiate studies. The fixed standard serves to eliminate the lazy and stupid students, and requires a certain activity of the general mass; but does nothing to make the best men put forth their full powers.

Such prizes as have generally been offered, namely, medals, books or money, do not fire the imagination of a scholar, nor make his fellows cheer him. They are seldom worthy objects of prolonged mental discipline and self-denial. Further, the basis of their award is often so one-sided as to diminish their value in the eyes of students. It is power which should be stimulated and rewarded rather than a cut-and-dried record.

The value of the moments of great dramatic action in athletics has been recognized and is used as a stimulus for the prolonged and tedious training. From the nature of scholastic studies, these dramatic moments are fewer, but should therefore be made much of and multiplied where possible.

In a very few colleges there is a class of rewards which really stimulate the best scholars and enthuse their fellow students. While varying in different institutions and departments, they are always opportunities for widening the experience and increasing the knowledge of the successful competitors. I